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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/809,071

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01/21/2005

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EXAMINER

WILSON, ROBERT W

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/809,071

Applicant(s)

SCHIEDER ET AL.

Examiner

Robert W Wilson

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☒ Claim(s) 1-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/12/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1.0 The application of Schieder et. al. entitled SUBSCRIBER TERMINAL, NETWORK CONTROLLER AND COMMUNICATION SYSTEM FOR PERFORMING PACKET DATA TRANSFER WITH REDUCED DELAY was filed on 3/16/01 and amended on 3/16/01 requesting priority based upon EPO 00 106 925.1 dated 3/31/00. Claims 1-31 are pending.

Claim Objections

2.0 Claim 21 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 103

3.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noneman et. al. (U.S. Patent No.; 5,708,656).

Note: Claim 21 was a multiple dependent claim for purpose of this action the examiner assumed that Claim 21 depended upon Claim 1.

Referring to **Claims 1**, Noeman teaches: Subscriber terminal of a communication system (SYS) for performing packet data transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a network side (NS), wherein during a data packet transfer a physical connection (TBF) is maintained which indicates in the subscriber terminal (SS) and the network side (NS)

Art Unit: 2661

that the subscriber terminal (SS) and the network side (NS) are valid for performing said packet data transfer (The Mobile station reads on the terminal. The base station reads on network side. The wireless network for packet data services reads on the communication system per col. 1 line 27-48)

a) a transmission detector (TDET1) including an active period detector (AP-DET) for monitoring, during a data packet transfer from said subscriber terminal side (SS) to said network side (NS), the inter-arrival time (TDIFF) of data packets (DP) and for determining as an active period (AP) the period from a first data packet (DP1) to the last data packet (DPn) for which each monitored inter-arrival time (TDIFF) falls in a predetermined range (TRA) (A timer is set upon receipt of a packet. If a maximum time runs out or the inter-arrival time exceeds a threshold or detector per col. 1 lines 27-48)

b) a physical connection controller (LC-CTRL including a physical connection maintaining a physical connection maintaining device (LC-MAIN) for maintaining said physical connection between said subscriber terminal (SS) side and said network side (NS) in said active period (A timer is set upon receipt of a packet. If a maximum time runs out or the inter-arrival time exceeds a threshold or detector then the connection is released or connection controller per col. 1 lines 27-48)

Noneman does not expressly call for: monitoring inter-arrival time but teaches a timer is set upon receipt of a packet and if a maximum time runs out

It would have been obvious to one of ordinary skill in the art at the time of the invention that the timer being set upon receipt of a packet and a determination if the time between packet is greater than a maximum time or a threshold performs the same function monitoring inter-arrival time

In Addition Noeman teaches:

Regarding **Claims 2**, wherein said active period (AP-DET) is further adapted for determining silence periods (SP) in which no data packets for data packet transfer are available on said subscriber terminal side (SS) (The mobile station or subscriber terminal side measures the maximum time between receipt of packets based upon a maximum timer time. When the maximum timer time is exceed then there would be a silence period per col. 1 lines 27-48)

Regarding **Claim 3**, said active period detectors (AP-DET) comprises a real time application data detector (RT-DET) for detecting whether said data packets (DP) are real time data packets (The applicant broadly defines "real time data packets". The examiner interprets data packets in a IS-657 environment as "real time data packets" per col. 1 lines 27-48.)

Regarding **Claim 4**, wherein said physical connection maintaining device (LC-Main) for maintaining said physical connection between said subscriber terminal (SS) side and said network side (NS) is aid active period comprises a data packet transmission delay device for delaying the transmission of a data packet at least for the inter-arrival time (TDIFF) as monitored

Art Unit: 2661

by said active period detector (The reference teaches that the timer is reset upon transmission of a packet and that the physical connection is maintained until a maximum timer time since the transmission of the last packet or delaying the physical connection per col. 1 lines 27-48)

Regarding **Claim 21**, A communication system (SYS) for performing packet data transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a network side (NS) wherein during a data packet transfer a physical connection (TBF) is maintained which indicated in the subscriber terminal (SS) and the network side (NS) that the subscriber terminal (SS) and the network side (NS) are capable of performing said packet data transfer, comprising at least one subscriber terminal and network controller (The Mobile station reads on the terminal. The base station reads on network side. The wireless network for packet data services reads on the communication system per col. 1 line 27-48. It is within the level of one skilled in the art to implement the limitations of Noeman into a network controller)

In Addition Noeman and Applicant's Background materials and Applicant's Prior Art Figures teaches:

Regarding **Claims 5**, a subscriber terminal side transmitter queue (TR-QUE) from which data packets (DP) are successively transmitted to the network side (NS) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

a subscriber terminal side transmitter monitoring device (QUE-MON) for determining whether the transmitter queue (TR-QUE) comprises data packets (DP) to be transmitted (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification);

A subscriber terminal side transmitter queue information setting means (CV SET) for determining, on the basis of the determination made by said transmitter queue monitoring means (QUE-MON) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification);

a transmitter queue (TR-QUE) information (CV) indicating whether the transmitter queue (TR-QUEU) is empty (CV=0) or at least one data packet to be transmitted to the network side (CV >0) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification) and;

Art Unit: 2661

a subscriber terminal side transmitter (SS-TR) for transmitting to said network side (NS) data packets (P) from the transmitter queue (TR-QUE) and for transmitting in association with a respective data packet (DP) said transmitter queue (TR-QUE) information (CV) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 6**, wherein said physical connection maintaining device (LC-MAIN) comprises a subscriber terminal side timer (T) for counting the inter-arrival time when a respective data packet (DP) is transmitted (The primary reference teaches per col. 1 line 27-48)

Wherein if said subscriber terminal side transmitter queue monitoring device (QUE-MON) does not determine an entry of a new data packet (DP) in the transmitter queue (TR-QUE) in said counted inter-arrival time (TDIFF), said subscriber terminal side transmitter (SS-TR) transmits a special data packet (DP) to the network side and in association therewith a transmitter queue (TR-QUE) information (CV) indicating that the transmitter queue (TR-QUE) is empty (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. The examiner has interpreted sending of a value for CV as a special packet. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 7**, wherein said special data packet (DP) is the last transmitted data packet (DP) or a dummy data packet (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. The examiner has interpreted sending of a value for CV as a special packet. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 8**, comprising an uplink release acknowledgement message detector (UP ACK/NAK) for determining the receipt of an uplink release acknowledgment message (PACKET UPLINK ACK/NACK; FAI=1) transmitted from the network side (NS) in response to receiving a transmitter queue (TR-QUE) information (CV=0) indicating that the transmitter queue (TR-QUE) is empty (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

If said subscriber terminal transmitter queue (TR-QUE) monitoring means (TR-MON) detects a new entry of data packet (DP) in said transmitter queue (TR-QUE) after said subscriber terminal transmitter (SS-TR) has transmitted a transmitter queue (TR-QUE) information (CV=0) indicating that the transmitter queue (TR-QUE) is empty, an uplink release acknowledgment message (PACKET UPLINK ACK/NACK; FAI=1) detected by said uplink release acknowledgment message detector (UPACK/NAK) is not answered by transmitting an uplink release confirmation message (PACKET CONTROL ACK) but by transmitting said new data

Art Unit: 2661

packet (DP) by said subscriber terminal transmitter (TR) for maintaining said physical connection (TBF) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 9**, wherein said transmitter queue information (CV) is transmitted in a respective data packet (DP) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claims 10**, a communication system (SS) for performing the packet data transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a network side (NS), wherein during a data packet transfer a physical connection (TBF) is maintained which indicated in the subscriber terminal (SS) and the network side (NS) that the subscriber terminal (SS) and the network side (NS) are capable of performing said packet data transfer (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Referring to **Claim 11**, Noeman teaches: A network controller of a communication system (SYS) for performing packet data transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a network side (NS), wherein during a data packet transfer a physical connection (TBF) is maintained which indicates in the subscriber terminal (SS) and the network side (NS) that the subscriber terminal (SS) and the network side (NS) are valid for performing said packet data transfer (The Mobile station reads on the terminal. The base station reads on network side. The wireless network for packet data services reads on the communication system per col. 1 line 27-48. It is within the level of one skilled in the art to implement that limitations described by Noeman into a network controller)

a) a transmission detector (TDET1) including an active period detector (AP-DET) for monitoring, during a data packet transfer from said subscriber terminal side (SS) to said network side (NS), the inter-arrival time (TDIFF) of data packets (DP) and for determining as an active period (AP) the period from a first data packet (DP1) to the last data packet (DPn) for which each monitored inter-arrival time (TDIFF) falls in a predetermined range (TRA) (A timer is set upon receipt of a packet. If a maximum time runs out or the inter-arrival time exceeds a threshold or detector per col. 1 lines 27-48)

b) a physical connection controller (LC-CTRL including a physical connection maintaining a physical connection maintaining device (LC-MAIN) for maintaining said physical connection between said subscriber terminal (SS) side and said network side (NS) in said active period (A timer is set upon receipt of a packet. If a maximum time runs out or the inter-arrival time

Art Unit: 2661

exceeds a threshold or detector then the connection is released or connection controller per col. 1 lines 27-48)

Noneman does not expressly call for: monitoring inter-arrival time but teaches a timer is set upon receipt of a packet and if a maximum time runs out

It would have been obvious to one of ordinary skill in the art at the time of the invention that the timer being set upon receipt of a packet and a determination if the time between packet is greater than a maximum time or a threshold performs the same function monitoring inter-arrival time

In Addition Noeman teaches:

Regarding **Claims 12**, wherein said active period (AP-DET) is further adapted for determining silence periods (SP) in which no data packets for data packet transfer are available on said network terminal side (SS) (The base station or network side measures the maximum time between receipt of packets based upon a maximum timer time. When the maximum timer time is exceed then there would be a silence period per col. 1 lines 27-48)

Regarding **Claim 13**, said active period detector comprises a real time application data detector (RT-DECT) for detecting whether said data packets (DP) to be transmitted from said network side (NS) are real-time data packets. (The applicant broadly defines "real time data packets". The examiner interprets data packets in a IS-657 environment as "real time data packets" per col. 1 lines 27-48.)

Regarding **Claim 14**, wherein said physical connection maintaining device (LC-Main) for maintaining said physical connection between said subscriber terminal (SS) side and said network side (NS) is aid active period comprises a data packet transmission delay device for delaying the transmission of a data packet at least for the inter-arrival time (TDIFF) as monitored by said active period detector (The reference teaches that the timer is reset upon transmission of a packet and that the physical connection is maintained until a maximum timer time since the transmission of the last packet or delaying the physical connection per col. 1 lines 27-48)

Regarding **Claim 20**, A communication system (SYS) for performing packet data transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a network side (NS) wherein during a data packet transfer a physical connection (TBF) is maintained which indicated in the subscriber terminal (SS) and the network side (NS) that the subscriber terminal (SS) and the network side (NS) are capable of performing said packet data transfer, comprising at least one network control (The Mobile station reads on the terminal. The base station reads on network side. The wireless network for packet data services reads on the communication system per col. 1 line 27-48. It is within the level of one skilled in the art to implement the limitations of Noeman into a network controller)

In Addition Noeman and Applicant's Background materials and Applicant's Prior Art Figures teaches:

Art Unit: 2661

Regarding **Claims 15**, a network side transmitter queue (TR-QUE) from which data packets (DP) are successively transmitted to the subscriber terminal side (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

a network side transmitter queue monitoring device (QUE-MON) for determining whether the transmitter queue (TR-QUE) comprises data packets (DP) to be transmitted (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification);

a network side transmitter queue information setting means (FBI-SET) for determining, on the basis of the determination made by said transmitter queue monitoring means (QUE-MON), a transmitter queue (TR-QUE) information (FBI) indicating whether the transmitter queue (TR-QUE) is empty (FBI=1) or whether the transmitter queue (TR-QUE) contains at least one data packet to be transmitted to the subscriber terminal side (FBI=0) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification);

a network side transmitter (NS-TR) for transmitting to said subscriber terminal side (SS) data packets (DP) from the transmitter queue (TR-QUE) and for transmitting to said subscriber terminal side (SS) data packets (DP) from the transmitter queue (TR-QUE) and for transmitting in association with a respective data packet (DP) said transmitter queue (TR-QUE) information (FBI) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 16**, wherein said physical connection maintaining device (LC-MAIN) comprises a subscriber terminal side timer (T) for counting the inter-arrival time when a respective data packet (DP) is transmitted (The primary reference teaches physical connection maintaining device per col. 1 line 27-48)

Wherein if said network side transmitter queue monitoring device (QUE-MON) does not determine an entry of a new data packet (DP) in the transmitter queue (TR-QUE) in said counted inter-arrival time (TDIFF), said subscriber terminal side transmitter (SS-TR) transmits a special data packet (DP) to the subscriber terminal side and in association therewith a transmitter queue (TR-QUE) information (FBI=1) indicating that the transmitter queue (TR-QUE) is empty (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. The examiner has interpreted sending of a value for CV as a special packet. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Art Unit: 2661

Regarding **Claim 17**, wherein said special data packet (DP) is the last transmitted data packet (DP) or a dummy data packet (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. The examiner has interpreted sending of a value for CV as a special packet. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 18**, wherein said physical connection maintaining device (LC-MAIN) comprises a subscriber terminal side timer (T) for counting the inter-arrival time when a respective data packet (DP) is transmitted (The primary reference teaches physical connection maintaining device per col. 1 line 27-48)

Wherein if said network side transmitter queue monitoring device (QUE-MON) does not determine an entry of a new data packet (DP) in the transmitter queue (TR-QUE) in said counted inter-arrival time (TDIFF), said network side transmitter (SS-TR) transmits a packet switched signaling message (PACKET TBF Release) to the subscriber terminal (SS) side and in association therewith a transmitter queue (TR-QUE) information (FBI=1) indicating that the transmitter queue (TR-QUE) is empty (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. The examiner has interpreted sending of a value for CV as a special packet. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 19**, wherein said transmitter queue information (FBI) is transmitted in a respective data packet (DP) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Referring to **Claim 22**, Noeman teaches: method for performing in a communication system (SYS) a packet data transfer on a connection (UL), (DL) between a subscriber terminal (SS) side and a network side (NS), with the following steps (The Mobile station reads on the terminal. The base station reads on network side. The wireless network for packet data services reads on the communication system per col. 1 line 27-48):

a) A maintaining (ST85,ST83) during a data packet transfer on said connection a physical connection (TBF) which indicates in the subscriber terminal (SS) and the network side (NS) that the subscriber terminal (SS) and the network side (NS) are valid for performing said packet data transfer (The reference teaches that the mobile or subscriber terminal side determine the time between transmission of packets and the base station or network side determines the time between receipt of transmissions. The time for the physical connection is maintained until the

Art Unit: 2661

timer exceeds a maximum time or threshold independently in both in the mobile station and the base terminal per per col. 1 line 27-48.)

a) monitoring (ST82), during a data packet transfer from said subscriber terminal side (SS) to said network side (NS), the inter-arrival time (TDIFF) of data packets (DP) and for determining as an active period (AP) the period from a first data packet (DP1) to the last data packet (DPn) for which each monitored inter-arrival time (TDIFF) falls in a predetermined range (TRA) (A timer is set upon receipt of a packet. If a maximum time runs out or the inter-arrival time exceeds a threshold or detector per col. 1 lines 27-48)

b) wherein said physical connection between said subscriber terminal (SS) side and said network side (NS) is maintained (ST85) in said active period (A timer is set upon receipt of a packet. If a maximum time does not run out or the inter-arrival time is less than a threshold connection is maintained or active period per col. 1 lines 27-48)

Noneman does not expressly call for: monitoring inter-arrival time but teaches a timer is set upon receipt of a packet and if a maximum time runs out

It would have been obvious to one of ordinary skill in the art at the time of the invention that the timer being set upon receipt of a packet and a determination if the time between packet is greater than a maximum time or a threshold performs the same function monitoring inter-arrival time.

In Addition Noeman teaches:

Regarding **Claims 23**, detecting (ST82) silence periods (SP) in which no data packets for data packet transfer are available on said subscriber terminal side (SS) (The mobile station or subscriber terminal side measures the maximum time between receipt of packets based upon a maximum timer time. When the maximum timer time is exceed then there would be a silence period per col. 1 lines 27-48)

Regarding **Claim 24**, detecting whether said data packets (DP) are real time data packets (The applicant broadly defines “real time data packets”. The examiner interprets data packets in a IS-657 environment as “real time data packets” per col. 1 lines 27-48.)

Regarding **Claim 25**, delaying the transmission of a data packet at least for the inter-arrival time (TDIFF) as monitored by said active period detector (The reference teaches that the timer is reset upon transmission of a packet and that the physical connection is maintained until a maximum timer time since the transmission of the last packet or delaying the physical connection per col. 1 lines 27-48)

In Addition Noeman and Applicant's Background materials and Applicant's Prior Art Figures teaches:

Art Unit: 2661

Regarding **Claim 26**, transmitting (ST80, ST80') form a transmitter queue (TR-QUE) data packets (DP) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Determining (QUE-MON) whether the transmitter queue (TR-QUE) comprises data packets (DP) to be transmitted (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Determining (CV-SET) a transmitter queue (TR-QUE) information (CV) indicating whether the transmitter queue (TR-QUE) is empty (CV=0) or whether the transmitter queue (TR-QUE) contains at least one data packet to be transmitted to the network side (CV>0) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Transmitting data packets (DP) form the transmitter queue (TR-QUE) and in association with a respective data packet (DP) said transmitter queue (TR-QUE) information (CV) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 27**, comprising counting (ST91', ST94', ST101') the inter-arrival time (TDIFF) when a respective data packet (DP) is transmitted (The primary reference teaches that the timer is reset upon transmission of a packet and that the physical connection is maintained until a maximum timer time since the transmission of the last packet or inter-arrival time per col. 1 lines 27-48)

Wherein if an entry of a new data packet (DP) into the transmitter queue (TR-QUE) is not determined in said counted inter-arrival time (TDIFF), transmitting (ST95, ST102)) a special data packet (DP) form the network side and in association therewith a transmitter queue (TR-QUE) information (CV) indicating that the transmitter queue (TR-QUE) is empty (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 28**, wherein said special data packet (DP) is the last transmitted data packet (DP) or a dummy data packet (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. The examiner has interpreted sending of a value for CV as a special packet. It would

Art Unit: 2661

have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 29**, comprising receiving (ST5a1) on the network side (NS) a transmitter queue (TR-QUE) information (CV=0) indicating that the transmitter queue (TR-QUE) is empty (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Transmitting (ST5a2) an uplink release acknowledgment message (PACKET UPLINK ACK/NACK; FAI=1) from the network side (NS) to the subscriber terminal (SS) side (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Determining (ST5a1', ST5a2') in the subscriber terminal side the receipt of said uplink release acknowledgment message (PACKET UPLINK ACK/NACK; FAI=1)

If a new entry of a data packet (DP) in said transmitter queue (TR-QUE) is detected (ST5a1') after said subscriber terminal transmitter (SS-TR) has transmitted a transmitter queue (TR-QUE) information (CV=0) indicating that the transmitter queue (TR-QUE) is empty, said subscriber terminal does not answer the uplink release acknowledgment message (PACKET UPLINK ACK/NACK; FAI=1) by transmitting (ST5a3') said physical connection (TBF) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 30**, wherein said transmitter queue information (CV) is transmitted in a respective data packet (DP) (The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. The examiner has interpreted sending of a value for CV in a data packet. It would have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Regarding **Claim 31**, comprising counting (ST111', ST114') the inter-arrival time (TDIFF) when a respective data packet (DP) is transmitted (The primary reference teaches a timer is set upon transmitting of a packet per col. 1 lines 27-48);

Wherein if an entry of a new data packet (DP) into the transmitter queue (TR-QUE) is not determined in said counted inter-arrival time (TDIFF), transmitting (ST115) a signal message (PACKET TBF RELEASE) from the network side (NS) and in association therewith a transmitter queue (TR-QUE) information (CV) indicating that the transmitter queue (TR-QUE) is empty ((The applicant teaches these limitations are prior art in the Background of the invention per applicants spec and per Figs 1-3, 4a, 4b, 4c, 5a, & 5b marked as prior art. It would

Art Unit: 2661

have been obvious to add these capabilities because they are taught as prior art per applicant's specification)

Claim Objections

4.0 **Claims 1-31** are objected to because of the following informalities: The applicant utilized references to the figures of the applicant drawings which make the claims indefinite

Referring to Claims 1, 11, & 22; the applicant uses notation "(UL,DL)" does the applicant mean UL and DL or UL or DL. There are many other claims that the applicant has used this confusing notation with different variables. The examiner recommends that the applicant either delete the reference to these variables or clarify whether these variables should be anded or ored.

Referring to Claims 8, the applicant uses the notation "ACK/NACK". Does the applicant mean ACK or NACK or ACK and NACK. The examiner recommends that the applicant either delete the reference to these variables or clarify whether these variables should be anded or ored

Referring to Claim 8, the applicant uses the notation "(PACKET UPLINK ACK/NACK; FAI=1)". Does the applicant mean "PACKET UPLINK ACK or NACK and FAI=1)". Does the applicant mean applicant mean "PACKET UPLINK ACK and NACK and FAI=1)"? There are many other claims that the applicant has used this confusing notation with different variables. The examiner recommends that the applicant either delete the reference to these variables or clarify whether these variables should be anded or ored. Appropriate correction is required.

Conclusion

5.0 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brouwer (U.S. Patent No.: 6,760,303B) dated July 6, 2004 which discloses a controller per Fig 11 which measures the fill of buffers relative to a threshold and a timer per Figs 10a & 10b in order to maintain a connection.

Seddigh et. al. (U.S. Patent No.: 6,741,556) dated May 25, 2004 which discloses that inter-arrival times for TCP packets are measured in order to determine if the TCP connection is active or idle per col. 5 lines 52-67 or per Fig 2B.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

Art Unit: 2661

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571/272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert W Wilson
Examiner
Art Unit 2661

RWW
January 12, 2005


KENNETH VANDERPUYE
PRIMARY EXAMINER